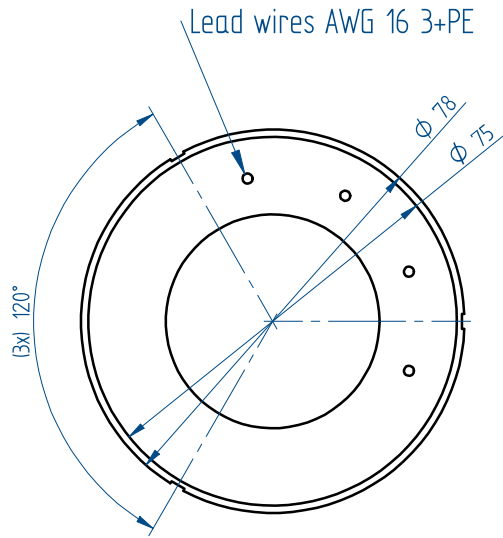
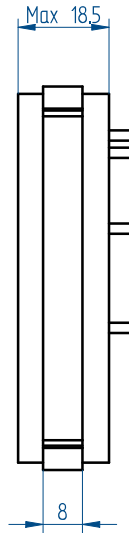


Mounting instructions and tolerances can be found in the torque installation manual. Manuals and 3D CAD files can be downloaded from our website.

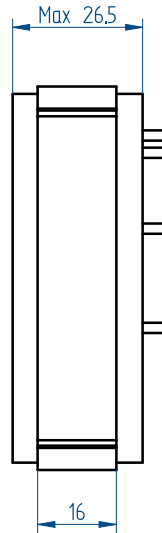
STATOR



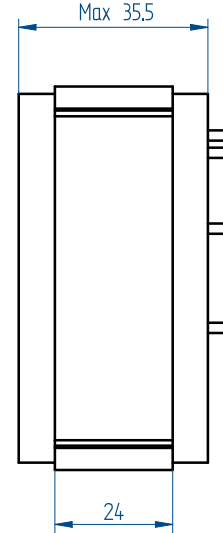
QTR-A 78-17



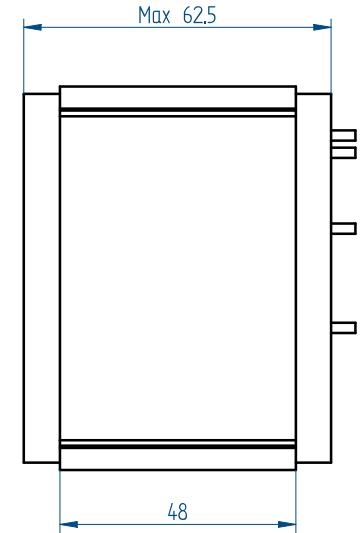
QTR-A 78-25



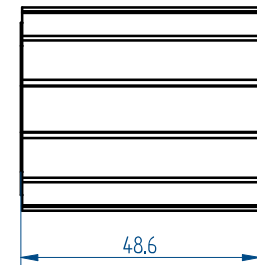
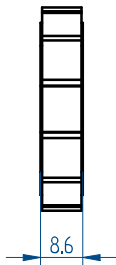
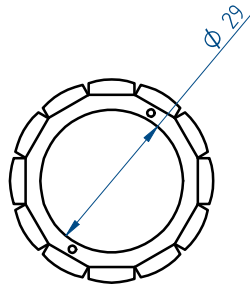
QTR-A 78-34



QTR-A 78-60



ROTOR



* All sizes are in mm

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	Parameter	Remarks	Symbol	Unit	QTR-A 78-17	QTR-A 78-25	QTR-A 78-34	QTR-A 78-60
Performance	Winding type				N	Y	Y	Y
	Motortype max. voltage ph-ph	3-phase synchronous		$V_{acrms} (V_{dc})$	420 (600)			
	Ultimate torque @ 20°C/s increase	magnet @ 25°C	T_u	Nm	1.22	2.93	4.54	10.85
	Peak torque @ 6°C/s increase	magnet @ 25°C	T_p	Nm	0.84	1.90	2.88	7.57
	Continuous torque	coil @ 100°C	T_c	Nm	0.57	1.38	2.19	4.41
	Maximum speed ⁽³⁾ @ 48 Volt	@ Tc @ 48 Vdc	n_{max}	rpm	2657	2360	1463	324
	Maximum speed @ max. voltage	@ Tc	n_{max}	rpm	23000	23000	23000	8147
	Motor torque constant	up to Ic	K_t	Nm/A _{rms}	0.117	0.131	0.198	0.530
	Motor constant	coils @ 25°C	K_m	(Nm) ² /W	0.0053	0.0166	0.0304	0.0842
	Electrical	Ultimate current	magnet @ 25°C	I_u	A _{rms}	13.84	27.98	27.98
Peak current		magnet @ 25°C	I_p	A _{rms}	7.58	15.32	15.32	15.05
Maximum continuous current		coils @ 100°C	I_c	A _{rms}	4.89	10.56	11.08	8.33
Back EMF phase-phase _{peak}			K_e	V/krpm	10.0	11.2	16.9	45.3
Back EMF phase-phase _{RMS}			K_e	V/krpm	7.1	7.9	12.0	32.0
Coil resistance per phase		coils @ 25°C ex. cable	R	Ω	0.857	0.342	0.430	1.111
Coil induction per phase		l < 0.6 lp	L	mH	1.35	0.76	1.04	3.4
Electrical time constant		coils @ 25°C	τ_e	ms	1.6	2.2	2.4	3.1
Poles			N_{mgn}	nr	12	12	12	12
Thermal		Continuous power loss	coils @ 100°C	P_c	W	80	150	207
	Thermal resistance ⁽²⁾	coils to mount. sfc.	R_{th}	°C/W	0.99	0.53	0.39	0.26
	Thermal time constant	up to 63% max. coiltemp.	τ_{th}	s	20	16	16	41
	Temperature cut-off / sensor				No temperature sensor			
Mechanical	Stator OD		OD _S	mm	78			
	Rotor ID		ID _R	mm	29			
	Motor height		H _{motor}	mm	18	26	35	62
	Lamination stack height		H _{arm}	mm	8	16	24	48
	Rotor inertia		J _R	kg*m ²	1.3E-05	2.5E-05	3.8E-05	7.6E-05
	Stator mass	excluding cables	M _S	g	208	353	501	1003
	Rotor mass		M _R	g	42	84	126	243
	Total mass	excluding cables	M _T	g	250	437	627	1246
	Cable mass	all cables	m	g	36			
Cable type (power)	length 0.5 m	d	mm (AWG)	2.06 (16)				



QTR-A 78 Stator and rotor shown with a height of 17 mm

1. These values are only applicable when the mounting surface is at 20°C and the motor is driven at maximum continuous current. If these values differ in your application, please check our simulation tool or manual.
2. R_{th} based on radial mounting of stator lamination stack.
3. MAXIMUM allowable speed for QTR-A 78 series motors is 23.000 rpm. If you plan a high speed application, please contact Tecnotion.

All specifications ±0%